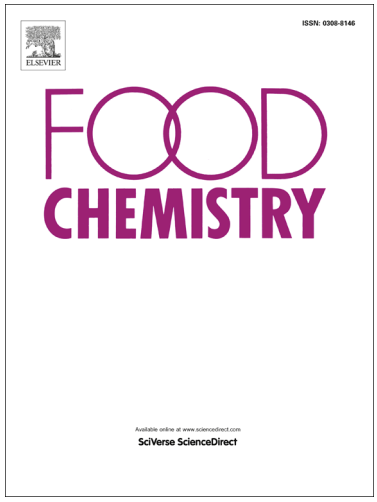

Thermally processed diet greatly affects profiles of amino acids rather than fatty acids in the muscle of carnivorous *Silurus meridionalis*

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Thermally processed diet greatly affects profiles of amino acids rather than fatty acids in the muscle of carnivorous *Silurus meridionalis*

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Running title: Thermally processed diet affects the protein quality of fish

ABSTRACT

This study aimed to evaluate the effects of thermally processed diet (TD) on the muscle nutritional values of southern catfish in two experiments (named E1 and E2). Compared to non-thermally processed diet (ND), TD did not significantly affect proximate composition of southern catfish, but increased moisture content and decreased protein content in E1. Meanwhile, it had no effect on overall fatty acid profiles of the catfish rich in PUFA. Southern catfish had high proportions of indispensable amino acids (IAA, 44.6–46.4% of total fatty acids), with the highest contents of lysine (1551–1808 mg/100 g wet weight muscle). However, TD altered profiles of the IAA, particularly decreased 68.5% and 68.4% of methionine, and 9.5% and 10.7% of lysine in E1 and E2, respectively. Conversely it increased 45.4% and